



NORTH CAROLINA Department of Transportation



Materials and Tests

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Can CEI firms use Department owned nuclear gauges...?

- CEI personnel cannot use DOT owned gauges
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- “Loaner” Gauge Transfer Procedure...
 - CEI firm may request a nuclear gauge from M&T
 - Gauge is transferred to firm’s license for duration of project
 - Firm accepts full responsibility for the gauge
 - Transferred gauges can be used for DOT projects only

Audit findings...



- ABC nuclear density test sections exceeded allowable length

Test Section Procedures . . .

- ✓ Technician has valid certification
 - Attended required classes and training
 - Completed Field Certification/Assessment
 - Status – “Active” or “Provisional”
- ✓ Gauge has valid calibration and leak test
- ✓ Verify gauge test parameters are correct
 - Standard Count
 - Count Time
 - Depth
 - Test Mode
 - Target Density



✓ Proper M&T 515 N Form

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

Division of Highways

Test Section – Base Course Material

M&T Form 515N
Revised 10/2014

Project _____ County _____ Date _____ Control Strip No. _____

Route _____ Material _____ Depth _____ Width _____ Quarry _____

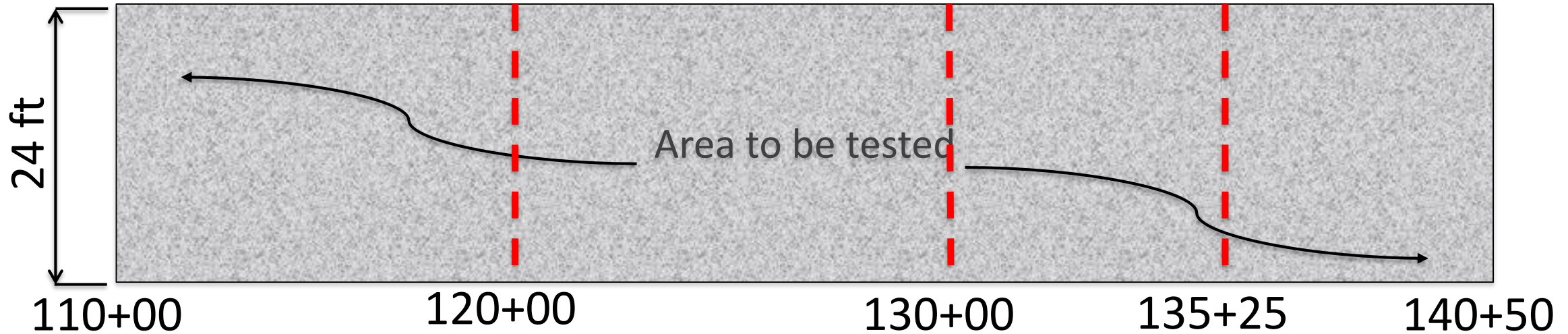
Layer _____ Gauge Serial No. _____ Test Mode _____ Target Density _____ lb/ft³ or kg/m³

Nuclear Gauge Standard Counts Density _____ Moisture _____ _____	Moisture Offset Moisture Offset enabled? <input type="checkbox"/> Yes <input type="checkbox"/> No <i>K</i> -Value = _____ = _____
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Test Section No.		Begin Station		End Station		Length /5=		Increments			
Random No.		Increments		Random (calc.)		Test Site Location		Measurement Results			
Length	Width	Length	Width	Length	Width	Station	Offset	Percent Compaction	Percent Moisture	Pass	Fail
A	B	C	D	A x C =	B x D =						
Test Section Average (%)											

- Length of test section is determined by its width . . .

Length of Test Section	
Width (feet)	Test Section Length (feet)
Less than 10	2,000
10 - 16	1,500
> 16 – 36	1,000
Greater than 36	Maximum of 4,000 yd ² per test section
FDR Material	
One test section per operation (tanker load)	



Total length of area? **$14050 - 11000 = 3,050$ feet**

Maximum allowable test section length? **1,000 feet**

How many test sections are needed?

